CLAIMS

1. A scintillator consisting of a crystal of $Pr_{1-x}Ce_xF_3$ ($0 < x < 0.5$).

2. The scintillator according to claim 1 characterized in that $0.03 < x < 0.2$.

3. The scintillator according to claim 1 or 2 characterized in that said crystal is grown by the micro pulling down method, Czochralski method, the floating zone method, or Bridgman method.

4. A radiation detector consisting of a combination of the scintillator according to any one of claims 1 to 3 and a light responding means.

5. A radiation inspecting device having the radiation detector according to claim 4 as the radiation detector.

6. The radiation inspecting device according to claim 5 characterized in that said radiation inspecting device is an X-ray CT scanner.

7. The radiation inspecting device according to claim 5 characterized in that said radiation inspecting device is PET (positron emission tomography).

8. The radiation inspecting device according to claim 5, characterized in that said PET (positron emission tomography) is two-dimensional type PET, three-dimensional type PET, time-of-flight (TOF) type PET, depth-of-image (DOI) type PET, or a combination type thereof.

9. The radiation inspecting device according to claim 5, characterized in that said radiation inspecting device is a single device, or a combination type with any of MRI, CT or SPECT, or with two of them.